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SEPTEMBER 17.

The President, Dr. RUSCHENBERGER, in the chair.

Twenty-eight persons present.

A paper entitled "Description of a supposed New Species of *Smynthurus*," by John A. Ryder, was presented for publication.

Remarks on Mactra.—Prof. LEIDY remarked that the most frequent and conspicuous shell met with on the sandy coast of New Jersey was the Beach-clam, *Mactra solidissima*. The living mollusk was thrown up in great numbers during severe storms; and high above the position reached by ordinary tides, its dead shells are thickly strewn over the sands. Shells are often met with having a smooth circular hole bored near the umbo, which appeared to be due to *Natica heros*, for several years ago, at Atlantic City, on the beach, near low-tide mark, Prof. L. had dug out of the sands many specimens of *Natica*, each of which embraced a beach-clam. The tongue of the *Natica*, covered with strong teeth, and over an inch long, formed a rasp, well adapted for boring the shell of its prey. Why the *Natica* always made choice of the position near the umbo for boring through the shell did not appear clear, though perhaps it might have something to do with reaching the adductor muscles of the shell of the *Mactra*. These are equidistant from the perforation, and, if torn through by the tongue of the *Natica*, would cause the shell of the *Mactra* to open, and thus render all the soft parts more accessible.

The *Mactra* lives in the sands of the coast, and appears to feed chiefly on diatoms and perhaps infusorians. Prof. L. had been surprised at the number of different genera and species of diatoms found in the contents of the intestines of the *Mactra*, though from an observation recently made, these delicately constructed plants would appear to thrive even on shore exposed to the disturbance of the ocean waves. Near the inlet, at Atlantic City, the beach between tides was noticed in many places to be covered with streaks and patches of a yellowish-green hue, and of extreme thinness. Some of this colored matter with sand was scraped up and put into a bottle and taken home for examination. After a few hours' rest, the green matter, diffused through the sand and water in the bottle, formed a thin layer on the sand. Under the microscope the green matter proved to be composed of a single diatom, the *Amphiprora constricta*. It was in a remarkable state of activity, and Prof. L. added, he thought he had never beheld any other diatom so much so as this one. Its power of movement and its broad keels were conditions which wonderfully favored its

ability to extricate itself from the sand to occupy a position on the surface.

Diatoms, from their constitution, are admirably adapted as food for the beach-clam, oyster, and other lamellibranch mollusks. They are crystal cases containing besides the endochrome, a quantity of colorless protoplasm, and considerable drops of oil. They might be likened to boat loads of corn, meat, and oil. In the materials of the commencement of the intestine of clams and oysters, Prof. L. had observed the diatoms with the contents in various conditions of change due to digestion; and in the materials of the rectum, the diatoms were empty or had been deprived of their contents.

In several beach-clams examined, among the matter of the intestine, Prof. L. had observed what he at first supposed to be the shell of a difflugian, but which he since suspected to be that of a ciliated infusorian, *Tintinnus*. In form and construction the shell resembles that of *T. annulatus* (Fig. 2, pl. 9, vol. i., Etudes sur les Infusoires, etc., Claparede and Lachmann). Its length was 0.78 to 0.12 mm., the breadth 0.024 to 0.036 mm.

The *Amphiprora constricta* above referred to was from 0.078 to 0.09 mm. long, 0.024 broad, and 0.012 mm. thick.

Irritable or Sensitive Stamens.—Mr. THOMAS MEEHAN remarked on the large list of plants now known that exhibited an irritative motion in some of their parts. A few years ago there were few in the list besides the Sensitive plant and the Venus fly-trap; now there were many scores of similar cases known, though chiefly as regards the stamens or portions of the pistils. He had already placed on record a large number of instances in plants of the orders *Bignoniaceæ*, *Scrophulariaceæ*, and *Acanthaceæ*, and he had found so many cases that he thought wherever there were bilobed flattened stigmas in these orders, we might expect to find this sensitiveness to touch exhibited in a greater or less degree. In regard to stamens, it was well known that in *Opuntia*, a family of *Cactaceæ*, the stamens moved in various directions when touched, and it was very remarkable that no such motion had been observed in *Cereus*, *Mammillaria*, and other allied genera of the order. Having noted a similar motion in the stamens of the common garden *Portulaca grandiflora*, he was led to look for and to find a similar motion in the Purslane, *Portulaca oleracea*. Examining another Portulacaceous plant, *Talinum teretifolium*, last year, he could find no trace of motion, but when on his recent journey south, he found growing in the Botanic Garden of Mr. Henry Shaw, of St. Louis, a West Indian species, *Talinum patens*, in which the expanded stamens fell down on the petals when touched. It was remarkable that this power should exist in *T. patens* and not in *T. teretifolium*, though some approach to this exceptional character was already noted in the genera, though not among the species of *Cactaceæ*.